

Communication Error Troubleshooting

WARNING! THE FOLLOWING TROUBLESHOOTING PROCESS REQUIRES WORKING IN THE VICINITY OF ENERGIZED ELECTRICAL EQUIPMENT. Failure to follow procedures could result in death or serious injury. This work should only be performed by qualified service personnel adhering to OSHA Standard 29 CFR, Part 1910.333. Energizing the power cabinet with the door open falls within the definition of this standard. Sukup Manufacturing Co. does not set the standards for safely working in these conditions and therefore does not assume responsibility for any injury or death resulting from working near said equipment. Service personnel are required to meet all safety precautions prior to working in the vicinity of energized electrical equipment.

By proceeding below, you are agreeing to indemnify and release Sukup Manufacturing Co. from any harm arising out of, connected with, or related to work in the vicinity of energized equipment.

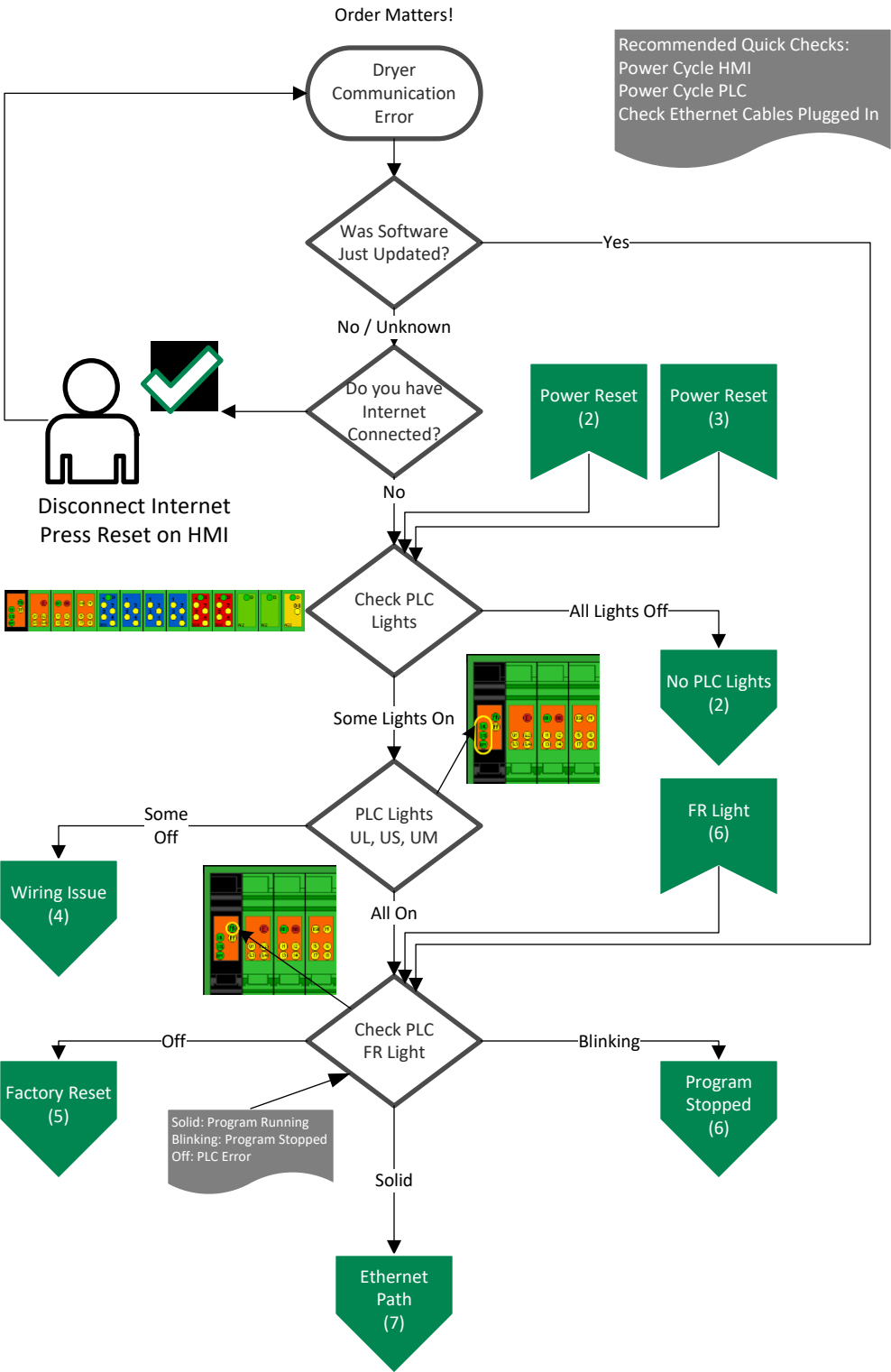
Legend:

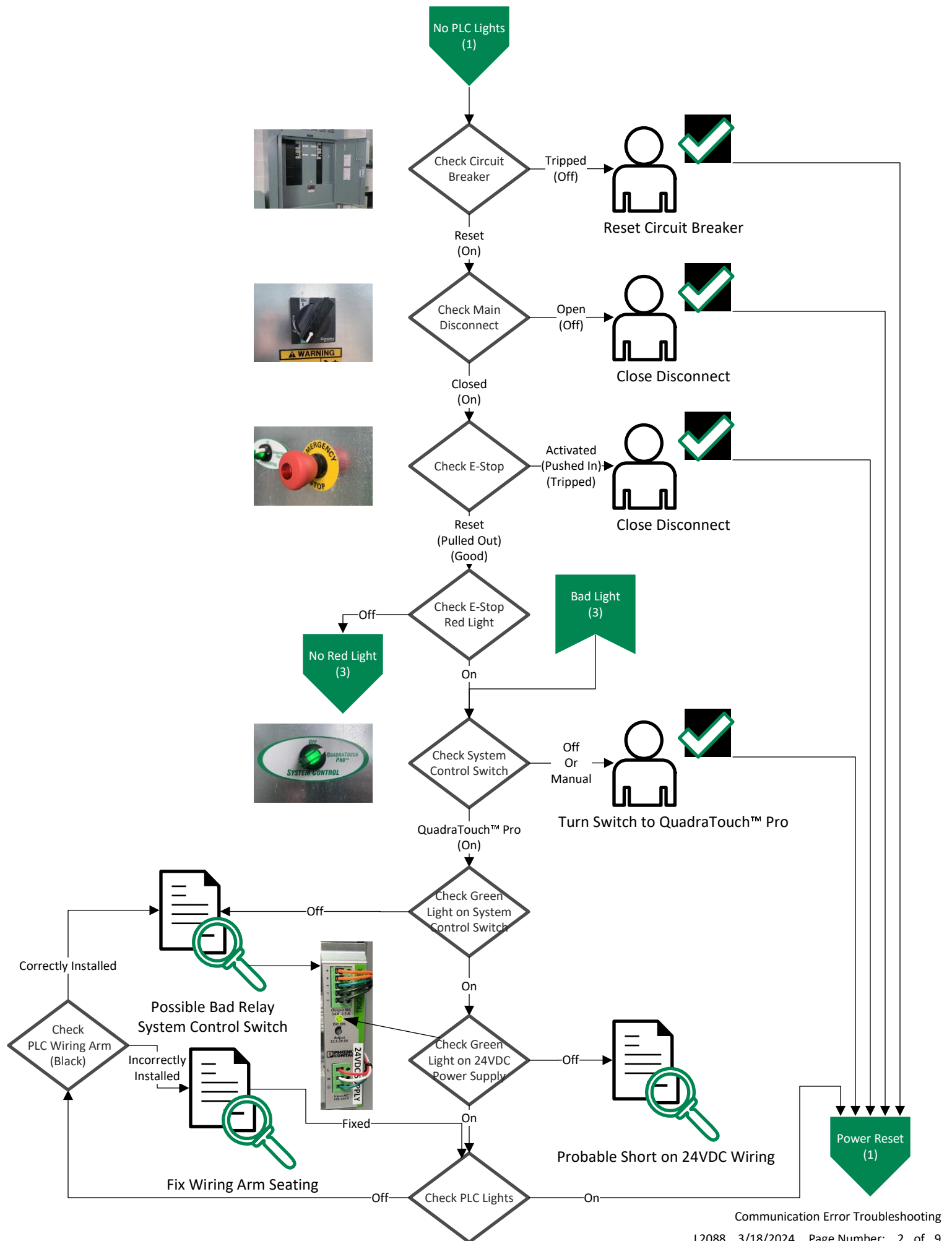
Jump to New
(Page #)

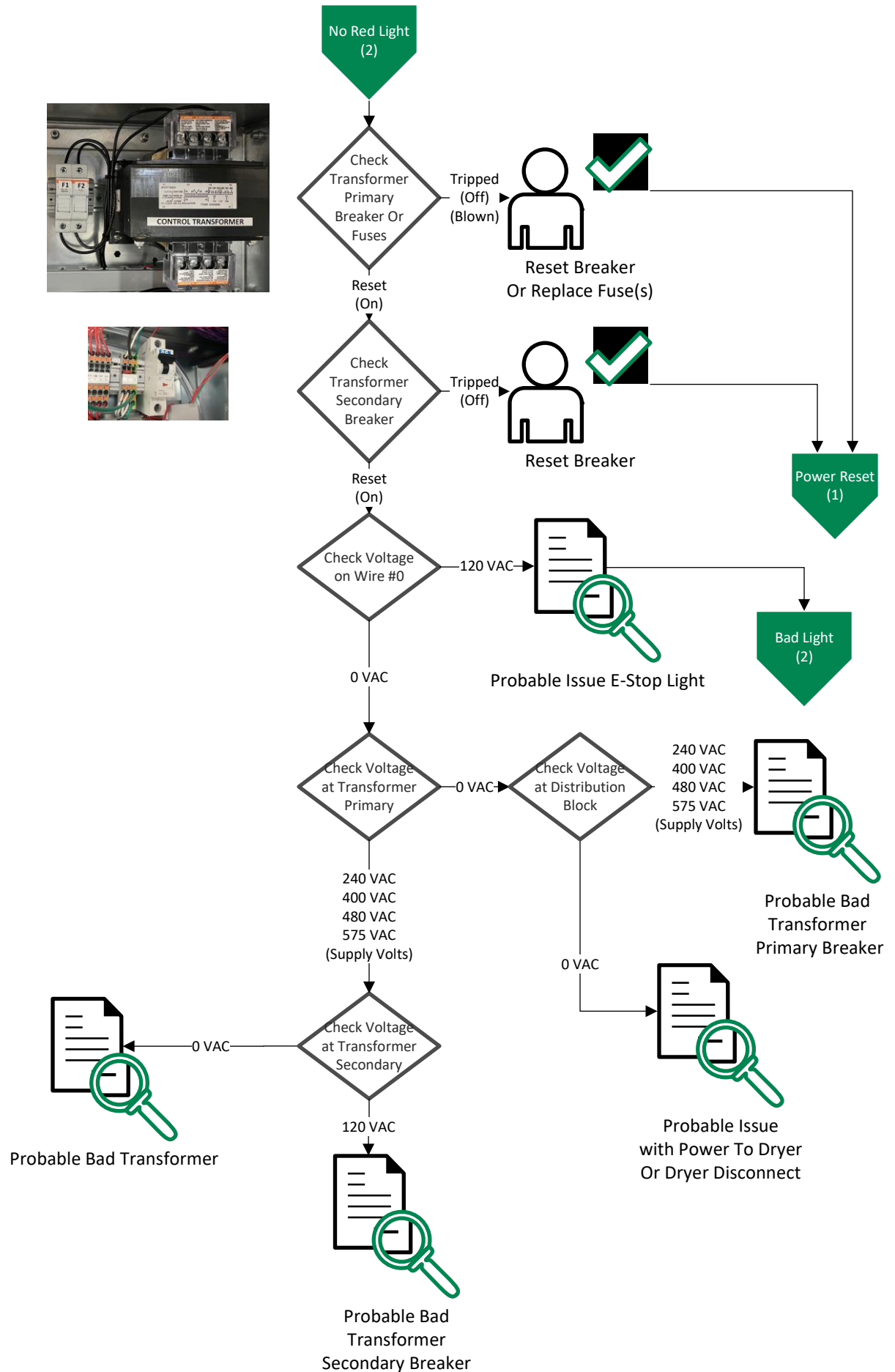
Return from
Other
(Page #)

Internet can sometimes cause a communication error when all the right conditions exist. This just eliminates this issue for testing.

You can likely reconnect once you have fixed the problem. If reconnecting internet causes the problem to return then you likely need to fix the Metric on both HMI Adapters

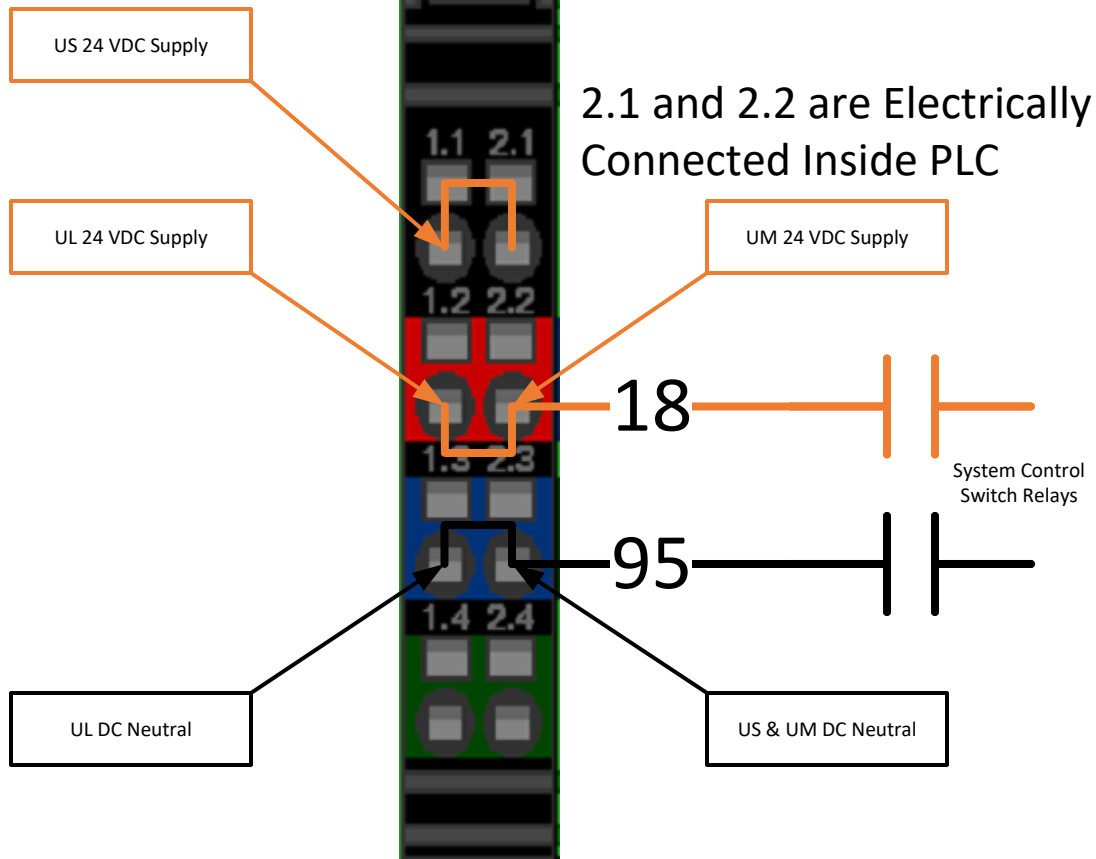






Wiring Issue
(4)

Voltage must be
greater than 20 VDC
on all 3 Inputs



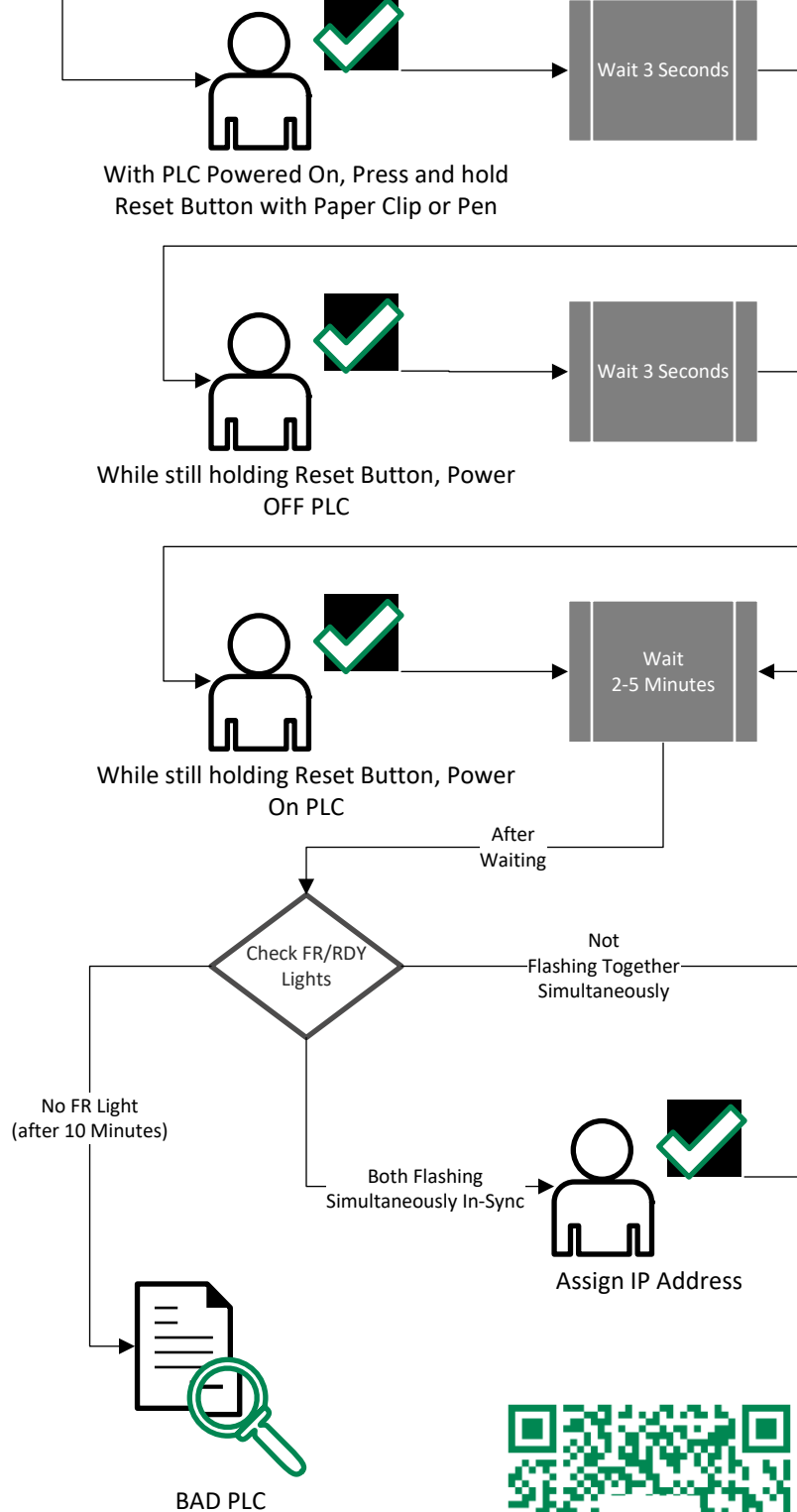
Factory Reset
(1)

PLC Factory Reset Procedure

Prior to Proceeding, please read all steps.

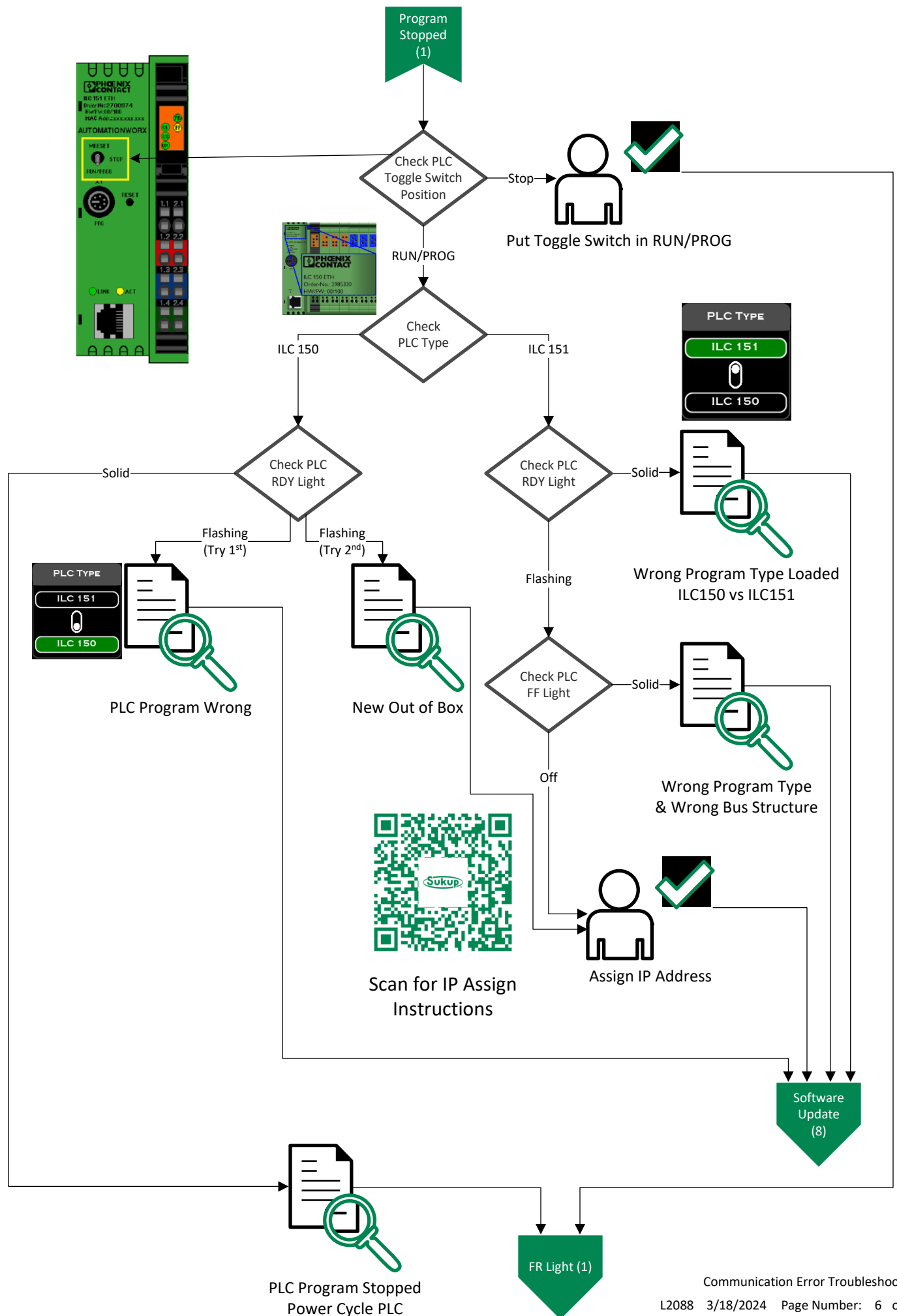


Scan for Factory Reset
Procedure

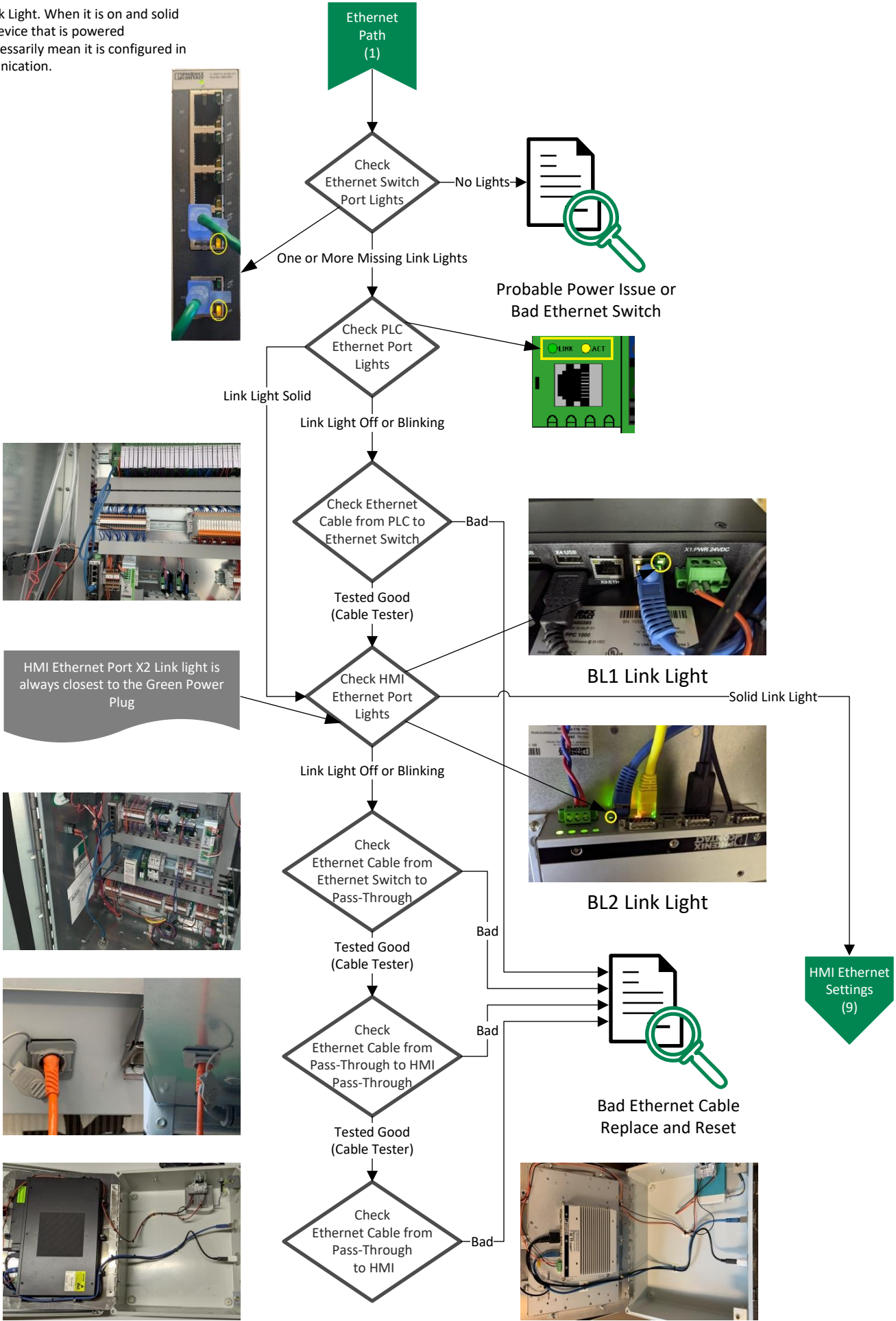


Scan for IP Assign
Instructions

If you think it may not have worked.
It never hurts to try again.

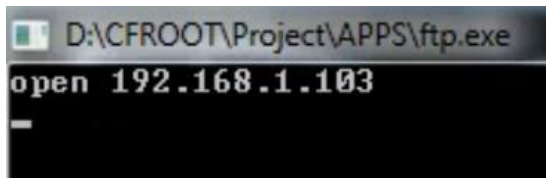
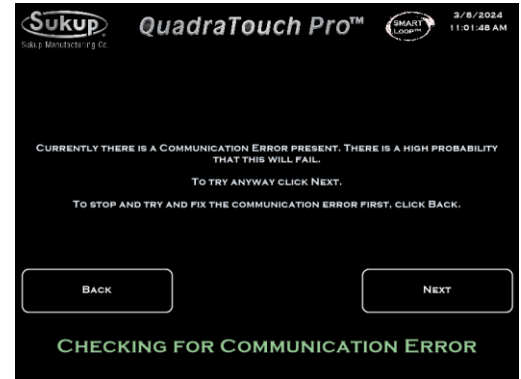
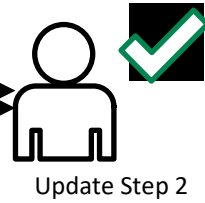
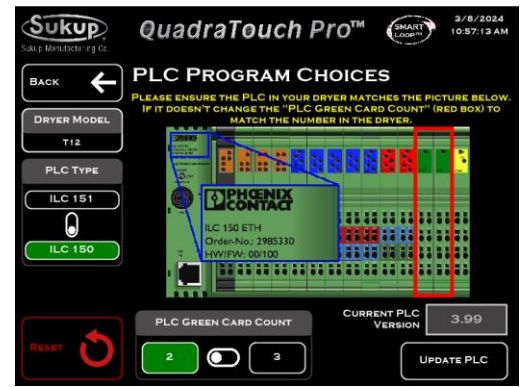
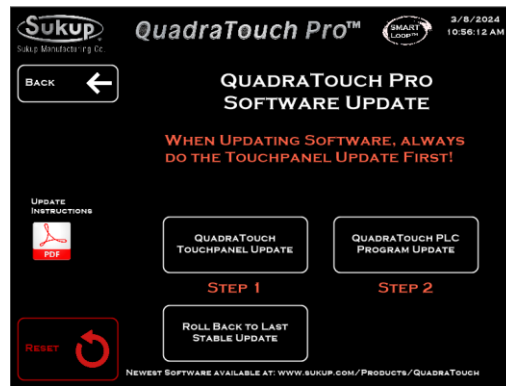


Ethernet Ports have a Link Light. When it is on and solid it means that there is a device that is powered connected. It doesn't necessarily mean it is configured in a way that allows communication.

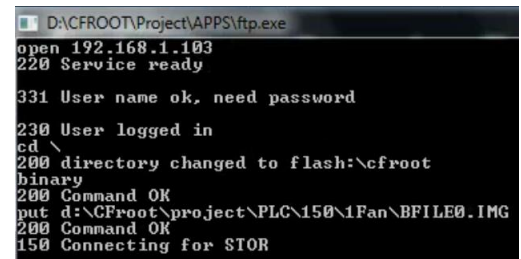


Software Update (5)

Software Update (6)



No Connection
PLC needs IP Assigned OR
HMI has wrong Ethernet Port Settings



Connected to PLC
PLC IP Address Valid
HMI Ethernet Settings Valid

HMI Ethernet Settings (9)

No Valid IP Connection

Valid IP Connection

IF FR Light is not solid the update cannot reset the PLC and therefore requires a power cycle to update. This is prompted during the update. Don't just click next without reading.

Follow on Screen Update Prompts

Check Communications

Error

Good



Congratulations

The HMI communicates with the PLC with a proprietary driver. If that driver crashes while the HMI software is loaded, it requires you to restart the HMI in order to reload the driver.

This is why sometimes just rebooting the HMI fixes the issue.

If the PLC is an ILC150 and has older firmware on it, it may not communicate with the HMI until the firmware is updated. Firmware update is not easy if it is not communicating at all with the HMI driver and you should contact Sukup Manufacturing if you believe this is the case. However, unless the PLC was once a QT Classic PLC it will likely not have the older firmware that I am describing.

Ethernet Settings are located at the end of the Network Repair Utility. These are the majority of instances you will see for the Dryer Connection. Note the Number Dryer Connection # (1, 2, & 3 are all possibilities) If you have multiple red or yellow items you might have to do several steps until you get to a good state.

ADAPTER NAME	DRYER CONNECTION 1
INDEX	0
MAC ADDRESS	ADAPTER DISABLED
IPV4 ADDRESS	
IP ADDRESS	
SUBNET	
GATEWAY	NO GATEWAY
METRIC	0
DHCP ENABLED	FALSE
NET STATUS	DISCONNECTED
ADAPTER TYPE	ETHERNET 802.3
AVAILABILITY	RUNNING/FULL POWER
STATUS INFO	N/A
INSTALLED	TRUE
KEEP ALIVE INTERVAL	0
KEEP ALIVE TIME	0
LAST ERROR	0
LAST COMMAND RESULT	0
ADAPTER ENABLED	FALSE

Adapter Disabled: This means the Ethernet Adapter Port on the HMI is Disabled. This can happen when running the network repair utility and not waiting for it to finish a process. It also rarely occurs when caught in a loop and you have to reset to get out of it.

Fix: Click Red Text "Adapter Disabled" to start the repair.

ADAPTER NAME	DRYER CONNECTION 1
INDEX	0
MAC ADDRESS	00:A0:45:C2:9D:0D
IPV4 ADDRESS	
IP ADDRESS	
SUBNET	
GATEWAY	NO GATEWAY
METRIC	0
DHCP ENABLED	FALSE
NET STATUS	MEDIA DISCONNECTED
ADAPTER TYPE	ETHERNET 802.3
AVAILABILITY	RUNNING/FULL POWER
STATUS INFO	N/A
INSTALLED	TRUE
KEEP ALIVE INTERVAL	0
KEEP ALIVE TIME	0
LAST ERROR	0
LAST COMMAND RESULT	0
ADAPTER ENABLED	FALSE

Media Disconnected: This means the Ethernet Adapter Port on the HMI doesn't think there is a cable plugged in with a working device at the other end of the cable.

Note: Several things can cause this. PLC Powered Off, Bad Cable, Bad Ethernet Passthrough Port, No Cable plugged in. See Page 7.

Fix: If you have followed this handout and have ended up here, this could be because the Ports are improperly configured for which one is the dryer connection and which one is the customer connection. If you switch to the other ethernet adapter and there is Net Status Connected, you will need to reset and run the network repair utility again and chose Initial Configuration to fix the port names and configuration. If you did not follow this procedure, start from the beginning and go through it.

ADAPTER NAME	DRYER CONNECTION 1
INDEX	0
MAC ADDRESS	00:A0:45:C2:9D:0D
IPV4 ADDRESS	169.254.39.249
IP ADDRESS	169.254.39.249 FE80:...
SUBNET	255.255.0.0 64
GATEWAY	NO GATEWAY
METRIC	20
DHCP ENABLED	TRUE
DHCP SERVER	255.255.255.255
NET STATUS	CONNECTED
ADAPTER TYPE	ETHERNET 802.3
AVAILABILITY	RUNNING/FULL POWER
STATUS INFO	N/A
INSTALLED	TRUE
KEEP ALIVE INTERVAL	0
KEEP ALIVE TIME	0
LAST ERROR	0
LAST COMMAND RESULT	0
ADAPTER ENABLED	TRUE

Dryer Ethernet Port wrong IP Address: This means the Ethernet Adapter Port on the HMI does not have the correct IP address.

Fix: Click the Red Text after IPV4 Address to start the repair. Note: The numbers shown to the left may not exactly match the address. The color is more important than the numbers.

ADAPTER NAME	DRYER CONNECTION 1
INDEX	0
MAC ADDRESS	00:A0:45:C2:9D:0D
IPV4 ADDRESS	192.168.1.98
IP ADDRESS	192.168.1.98 FE80:...
SUBNET	255.255.255.0 64
GATEWAY	NO GATEWAY
METRIC	20
DHCP ENABLED	FALSE
NET STATUS	CONNECTED
ADAPTER TYPE	ETHERNET 802.3
AVAILABILITY	RUNNING/FULL POWER
STATUS INFO	N/A
INSTALLED	TRUE
KEEP ALIVE INTERVAL	0
KEEP ALIVE TIME	0
LAST ERROR	0
LAST COMMAND RESULT	0
ADAPTER ENABLED	TRUE

Dryer Ethernet Port wrong Metric: This means the Ethernet Adapter Port on the HMI does not have the proper priority set. The metric is what the HMI uses to determine which port to try and use for communication first. Lower the number the higher priority it has.

Fix: Click the Red Text after Metric to start the repair. Note: The metric number shown to the left may not exactly match the metric you see. The color is more important than the number value.

Additional Note: If Internet is plugged in and the Metric on the Customer Connection # is set wrong it can also cause a problem. Make sure both are green/white if internet is connected.

ADAPTER NAME	DRYER CONNECTION 1
INDEX	0
MAC ADDRESS	00:A0:45:C2:9D:0D
IPV4 ADDRESS	192.168.1.98
IP ADDRESS	192.168.1.98 FE80:...
SUBNET	255.255.255.0 64
GATEWAY	NO GATEWAY
METRIC	1
DHCP ENABLED	FALSE
NET STATUS	CONNECTED
ADAPTER TYPE	ETHERNET 802.3
AVAILABILITY	RUNNING/FULL POWER
STATUS INFO	N/A
INSTALLED	TRUE
KEEP ALIVE INTERVAL	0
KEEP ALIVE TIME	0
LAST ERROR	0
LAST COMMAND RESULT	0
ADAPTER ENABLED	TRUE

All Green or White, Good State

All Green or White, still have a communication error? This means the Ethernet Adapter Port on the HMI is setup correctly, however it does not mean the PLC has the correct IP Assignment or a Program Running.

Fix: Perform IP Assign and check FR Light



Scan for IP Assign Instructions

Additional Information:

The HMI communicates with the PLC with a proprietary driver. If that driver crashes while the HMI software is loaded, it requires you to restart the HMI in order to reload the driver.

This is why sometimes just rebooting the HMI fixes the issue.

Also if someone has added a router to the private network of the dryer (Dryer Connection Side) vs using the customer connection, at startup the PLC might be getting a assigned a different new IP Address from the unauthorized router on that private network. (Fairly rare, but happens)